-- IN THE CLAIMS --

This listing of claims will replace all prior versions,and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for identifying an interacting set of molecules comprising:

A) generating first protein fragments and second protein fragments of a protein reporter molecule which have a directly or indirectly detectable activity when associated;

B) coupling said first protein fragments to members of a first panel of molecules;

C) coupling said second protein fragments to members of a second panel of molecules;

D) mixing the products of B) and C);

E) directly or indirectly testing for reconstitution of said activity when said protein fragments are associated; and

F) identifying the panel members whose interaction resulted in said activity and which thus form an interacting set.

Claim 2 (withdrawn)

3. (amended) A method of Claim 1 wherein at least one of said first panel comprises a library of molecules.

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4. (amended) A method of Claim 1 wherein at least ~~two~~ one of said first panel and said second panels comprise a library of molecules.

Claims 5-8 (withdrawn)

Claim 9. (cancelled)

Claims 10-17 (withdrawn)

18. (new) The method of claim 1 wherein said protein reporter fragments are selected from the group consisting of enzyme fragments and fluorescent protein fragments.

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19. (new) The method of claim 18 wherein said enzyme fragments are DHFR fragments.

20. (new) The method of claim 18 wherein said fluorescent protein fragments are green fluorescent protein fragments.

21. (new) A method useful for large scale panel-panel screening for the identification of an interacting set of molecules, selected from the group consisting of interacting polypeptide partners and interacting protein partners, comprising:

(a) generating first fragments and second fragments of a reporter molecule;

(b) coupling said first fragments to members of a first panel of molecules to make first products;

(c) coupling said second fragments to members of a second panel of molecules to make second products;

(d) mixing said first products of step b) and said second products of step c) ;

(e) directly or indirectly testing in vivo for reporter molecule activity resulting from the interaction of at least one of said first products with at least one of said second products; and

(f) identifying the interacting set of said members of said first panel and said members of said second panel associated with said first products and said second products which interacted to give said activity; wherein said first fragments and said second fragments are fragments of a DHFR.

22. (new) A method of claim 21 wherein said fragments of DHFR are selected from the group consisting of fragments of wild type DHFR, fragments of rationally designed DHFR, fragments of mDHFR, and fragments of DHFR-Ile114Ala .

23. (new) A method of claim 21 wherein said activity is enzymatic activity of DHFR.

24. (new) A method of claim 21 wherein at least one of said first panel and said second panel comprises a library of molecules.

25. (new) A method of claim 21 wherein at least one of said first panel of molecules and said second panel of molecules comprises leucine zipper forming peptides.

26. (new) A method of claim 25 wherein at least one of said first panel of molecules and said second panel of molecules comprises leucine zipper forming molecules selected from the group consisting of WinZip A1 interactive peptides and WinZip B1 interactive peptides.

27. (new) A method for identifying an interacting set of molecules comprising:

(a) generating first fragments and second fragments of a reporter molecule;

(b) coupling said first fragments to members of a first panel of molecules;

(c) coupling said second fragments to members of a second panel of molecules;

(d) mixing the first products of step b) and the second products of step c) ;

(e) directly or indirectly testing in vivo for reporter molecule activity resulting from the interaction of at least one of said first products with at least one of said second

products; and

(f) identifying the interacting subset of said members of said first panel and said members of said second panel associated with said first products and said second products which interacted to give said activity; wherein said first fragments and said second fragments are fragments of a DHFR and wherein

both said first panel of molecules and said second panel of molecules comprise leucine zipper forming molecules.

28. (new) A method of claim 27 wherein at least one of said first panel and said second panel comprises a library of molecules based on the panels of proteins selected from the group consisting of WinZip A1 interacting peptides and WinZip B1 interacting peptides.

29. (new) A method of claim 27 wherein said fragments of DHFR are selected from the group consisting of fragments of wild type DHFR, fragments of rationally designed DHFR, fragments of mDHFR, and fragments of DHFR-Ile114Ala .

30. (new) A method of claim 27 wherein said activity is enzymatic activity of DHFR.

31. (new) A method for identifying highest reporter molecule activity used for identifying an interacting set of molecules comprising:

(a) generating first fragments and second fragments of a reporter molecule;

(b) coupling said first fragments to members of a first panel of molecules;

(c) coupling said second fragments to members of a second panel of molecules;

(d) mixing the first products of step b) and the second products of step c) ;

(e) directly or indirectly testing in vivo for reporter molecule activity resulting from the interaction of at least one of said first products with at least one of said second products; and

(f) identifying the interacting subset of said members of said first panel and said members of said second panel associated with said first products and said second products which interacted to give said activity; wherein said first fragments and said second fragments are fragments of DHFR; and wherein said second fragments are selected from the group consisting of (1)DHFR fragments with lower avidity than wild type DHFR and (2) DHFR[2:I114A].

32. (new) A method of claim 31 wherein at least one of said first panel and said second panel comprises a library of molecules.

33. (new) A method of claim 31 wherein at least one of said first panel of molecules and said second panel of molecules comprise leucine zipper forming molecules.